

WHAT IS CLAIMED IS:

1 1. A tire pressure monitor system located within the interior of
2 a tire, the system comprising:

3 a housing having a wall forming a cavity, the housing further having
4 an interior wall forming a chamber in fluid communication with the cavity;

5 a tire pressure sensor located within the housing cavity, the sensor
6 having an orifice for helping to sense tire pressure; and

7 a pressure cap inserted into the housing chamber, the pressure cap
8 comprising a wall having a portion that contacts the sensor and extends around the
9 sensor orifice.

1 2. The system of claim 1 wherein the pressure cap encircles the
2 sensor orifice.

1 3. The system of claim 2 wherein the pressure cap substantially
2 blocks fluid communication between the sensor orifice and the housing cavity, the
3 pressure cap having at least a first conduit providing fluid communication between
4 the sensor orifice and the exterior of the housing.

1 4. The system of claim 1 wherein the pressure cap is made of a
2 heat-resistant compressible material.

1 5. The system of claim 1 wherein at least a first portion of the
2 pressure cap is not in interference fit with the housing chamber and a second portion
3 of the pressure cap is in interference fit with the housing chamber.

1 6. The system of claim 1 wherein the pressure cap is
2 substantially frusto-conical in shape.

1 7. The pressure cap of claim 6 wherein the pressure cap
2 comprises a first frusto-conical section and a second frusto-conical section that is
3 connected with and radially outward from the first section.

1 8. The pressure cap of claim 3 wherein the interior wall has a
2 first wall portion adjacent a first cap portion of the pressure cap, the first wall
3 portion of the interior wall having a first diameter, and the first cap portion of the
4 pressure cap having a second diameter smaller than the first diameter so that a
5 second conduit is formed between the first wall portion and the first cap portion, the
6 second conduit being in fluid communication with the first conduit.

1 9. A pressure cap for use with a tire pressure monitor, the
2 monitor comprising a housing having a wall forming a cavity and an interior wall
3 forming a chamber in fluid communication with the cavity and an air pressure
4 sensor within the housing, the cap comprising:

5 a cap wall which when inserted within the chamber extends between
6 the housing wall and the sensor and extends around the sensor orifice.

1 10. The pressure cap of claim 9 wherein the pressure cap encircles
2 the sensor orifice.

1 11. The pressure cap of claim 9 wherein the pressure cap
2 substantially blocks fluid communication between the sensor orifice and the housing
3 cavity, the pressure cap having at least a first conduit providing fluid communication
4 between the sensor orifice and the exterior of the housing.

1 12. The pressure cap of claim 9 wherein at least a portion of the
2 pressure cap is in interference fit with the housing opening.

1 13. The pressure cap of claim 9 wherein the pressure cap
2 comprises a first frustro-conical section and a second frustro-conical section that is
3 connected with and radially outward from the first section.

1 14. The pressure cap of claim 9 wherein the interior wall has a
2 first wall portion adjacent a first cap portion of the pressure cap, the first wall
3 portion of the interior wall having a first diameter, and the first cap portion of the

4 pressure cap having a second diameter smaller than the first diameter so that a
5 second conduit is formed between the first wall portion and the first cap portion, the
6 second conduit being in fluid communication with the first conduit.

1 15. A method for manufacturing a tire pressure monitoring system
2 located within the interior of a tire, the method comprising:

3 providing a housing having a wall forming a cavity and having an
4 interior wall forming a chamber in fluid communication with the cavity;

5 locating a tire pressure sensor within the housing cavity, the sensor
6 having an orifice for helping to sense tire pressure; and

7 locating a pressure cap into the housing chamber, the pressure cap
8 comprising a wall having a portion that contacts the sensor and extends around the
9 sensor orifice.

1 16. The method of claim 15 wherein the pressure cap encircles the
2 sensor orifice.

1 17. The method of claim 15 wherein the pressure cap substantially
2 blocks fluid communication between the sensor orifice and the housing cavity, the
3 pressure cap having at least a first conduit providing fluid communication between
4 the sensor orifice and the exterior of the housing.

1 18. The method of claim 15 wherein at least a portion of the
2 pressure cap is in interference fit with the housing opening.

1 19. The method of claim 15 wherein the pressure cap comprises
2 a first frustro-conical section and a second frustro-conical section that is connected
3 with and radially outward from the first section.

1 20. The method of claim 15 wherein the interior wall has a first
2 wall portion adjacent a first cap portion of the pressure cap, the first wall portion
3 of the interior wall having a first diameter, and the first cap portion of the pressure
4 cap having a second diameter smaller than the first diameter so that a second conduit

- 5 is formed between the first wall portion and the first cap portion, the second conduit
- 6 being in fluid communication with the first conduit.